IN THE CLAIMS:

Please add claims 9-12. The status of all claims is as follows:

1. (Previously Presented) A single electron transistor device comprising:

a source;

a drain;

a gate;

a buried gate layer of silicon nanoparticles; and

wherein said silicon nanoparticles have a diameter of approximately 1 nm.

- 2. (Original) The single electron device according to claim 1, further comprising a buried gate contact to electrically stimulate said silicon nanoparticles separately from a contact to said gate.
 - 3. (Cancelled)
- 4. (Original) The single electron device according to claim 1, wherein said silicon nanoparticles exhibit an energy spacing of approximately 1 eV.
- 5. (Previously Presented) A method for operating a single electron device, which has a source, a drain, a gate, and 1nm diameter silicon nanoparticles implanted as a buried gate layer, comprising the steps of:

creating at least one hole in the silicon nanoparticles to enable the silicon nanoparticles to conduct a single electron at room temperature across the source and the drain; and

applying a voltage across the drain and the source.

- 6. (Previously Presented) The method of operating the single electron device according to claim 5, wherein said step of creating a hole in said silicon nanoparticles is accomplished by irradiating said silicon nanoparticles.
- 7. (Previously Presented) The method of operating the single electron device according to claim 5, wherein said step of creating a hole uses light having a spectral width between 300nm and 600nm.
 - 8. (Previously Presented) A transistor memory device comprising: a source;
 - a drain; and
- a gate, with 1nm diameter silicon nanoparticles contained in a control oxide and separate from a tunnel oxide disposed between said source and drain.
 - 9. (New) A single electron device comprising:
 - a source;
 - a drain;
 - a gate;
 - a buried gate layer of silicon nanoparticles; and
- a buried gate contact to electrically stimulate said silicon nanoparticles separately from a contact to said gate;

wherein said silicon nanoparticles have a diameter of approximately 1 nm.

- 10. (New) A single electron device comprising:
- a source;
- a drain;
- a layer of silicon nanoparticles having a diameter of approximately 1 nm for

conducting a single electron at room temperature across the source and the drain; a stimulating device to create vacancies in said layer of the silicon nanoparticles for single electron operation.

- 11. (New) The single electron device of claim 10 wherein said stimulating device comprises a light irradiator for irradiating the silicon nanoparticles in said layer of silicon nanoparticles.
- 12. (New) The single electron device of claim 11 wherein the light irradiator radiates light having a spectral width between 300 nm and 600 nm.